Spontaneity Theory of Child Development

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FOREWORD

This monograph is the most comprehensive formulation to date of a spontaneity theory of child development. The major part of it appeared in *Sociometry*, vol. 7, no 2, 1944. A new chapter has been added, "General Discussion of Spontaneity Theory," and a chapter in the supplementary notes, "Definition of Spontaneity."

The authors refrained from including in this monograph illustrative material which is now available, since they are preparing a special monograph, "Analysis and Measurement of Spontaneity," which will furnish the reader with a supplement of concrete data

For collateral reading on spontaneity theory in its broader aspects, "The Theatre for Spontaneity," (1923) Psychodrama Monograph no 3, "Who Shall Survive," and "Spontaneity Test and Spontaneity Training," Psychodrama Monograph no, 4 are recommended.

"The sense for spontaneity, as a cerebral function, shows a more rudimentary development than any other important, fundamental function of the central nervous system This may explain the astonishing inferiority of men when confronted with surprise tactics. The study of surprise tactics in the laboratory shows the flexibility or the rigidity of individuals when faced with unexpected incidents Taken by surprise, people act frightened or stunned They produce false responses or none at all It seems that there is nothing for which human beings are more ill-prepared and the human brain more ill-equipped than for surprise The normal brain responds confusedly, but psychological tests of surprise have found that fatigued, nerve racked and machine-ridden people are still more inadequate—they have no response ready nor any organized, intelligent reaction to offer to sudden blows which seem to come from nowhere. . . When compared with many other mental functions such as intelligence and memory, the sense for spontaneity is seen to be far less developed This may perhaps be so because, in the civilization of conserves which we have developed, spontaneity is far less used and trained than, for instance, intelligence and memory"
The Theatre for Spontaneity, (1923) translated and revised, The Philosophy of the Moment, Sociometry, Volume 4, Number 2, 1941.

". . Conscious evolution through training of spontaneity opens a new vista for the development of the human race." Who Shall Survive?, 1934

INTRODUCTION

The theoretical structure of every empirical science needs from time to time a thorough overhauling New findings, and perhaps, still more than this, new dimensions of investigation require and demand new supporting hypotheses A theory of personality, for instance, is needed, especially a theory of child development, which is in better accord with the dimensions of study in which an increasingly large number of child psychologists, social psychologists, analysts, and therapists are engaged. They still carry on with antiquated concepts which do not quite meet new situations The theories of child development, as evolved by behaviorism, the Gestalt School, and psychoanalysis have lost their magnetism in some quarters, probably because they have lost their usefulness in empirical and experimental study. The appeal of concepts such as spontaneity, warming-up process, spontaneity training, auxiliary ego, rôle-playing, and tele (mental distance-receptors) is growing in momentum

The emphasis has been, in the past, on describing the baby as an individual organism, showing how he develops from a psychologically undifferentiated to a more and more differentiated personality. It proceeded after the model of the biologist who, too, was primarily interested in the gradual differentiation of the physical aspect of the organism. From this point of view, there is no difference between behavioristic terms, Gestalt terms, and psychoanalytic terms of analysis, however great the contrasts between these three ideologies are otherwise.

The psychological study of the newborn has been pursued largely in two dimensions—the one dimension is that of animal psychology, which studies the behavior of the young animal and compares it with human infants Illustrations are Pavlov's experiments with dogs and the maze experiments with rats We appreciate the value of this research trend, but consider it one-sided It is an outgrowth of the theory of evolution, trying to find, parallel to the biological links between subhuman and human, the psychological intermediary stages between subhuman and human organisms

The second dimension is the interpretation of the infant, largely in terms derived from the mental syndromes of the neurotic adult The best illustration is the psychoanalytic theory, which traces personality disorganization and sexual abnormalities to the oral and anal strivings of the infant.

There is a third dimension of infant research which has been grossly neglected. Instead of looking at the infant from the lower organisms up, trying to interpret him as a little animal, in animal-psychological terms, and instead of trying to interpret him as a little neurotic or young savage, from the neurotic angle, it is of relevance to look at the human infant systematically from the platform of the highest concrete examples of human embodiment and achievement—we mean here, literally, the geniuses of the race,—and to interpret him as a potential genius. We assume here that, in the geniuses of the race, certain dormant capabilities and basic skills, common to all men, come to their most dramatic expression They have an intensity which is more difficult to trace in the average individual Their natural and continuous spontaneity and creativity, not only in rare moments but as a daily expression, give us clues for understanding the infant which cannot be dismissed, unless we consider all genial performers of the human race as *freaks* What is at the core of their passionate existence must be the most positive, the most substantial thing which is dormant in every infant. It is distorted in the course of his existence and we might lose sight of it because of one-sided interpretations In this paper and in similar researches which we have published, spontaneity and creativity are regarded as *primary* and *positive* phenomena and not as derivatives of libido or any other animal drive From the way in which men of genius warm up with their whole organism in status nascendi to creative deeds and works, we can get the clues of how every infant, in miniature, warms up and maintains itself from the moment of birth on

There is still another aspect neglected in describing the development of the human infant—that of probing more deeply into such generalized terms as environment, situation or field There is often the failure to include the deeper issues underlying these terms For instance, the most important part, within environment or fields, are the interacting individual organisms It is important to know *how* these individual organisms interact and particularly how the human infant interacts with other individual organisms It is the emphasis upon and study of these deeper questions of child development which spontaneity and sociometric theories have brought to the fore and attempted to solve.

The Situation at Birth as a Primary Phase in the Warming-up Process to Spontaneous States

Situation at birth. In order to understand the rôle of spontaneity in the situation at birth, we must analyze the organism which may call for its aid. By an accident of nature, it seems the human infant is born *nine* months after conception. He might have been born many months later, and the newborn might have sprung off nearly ready to take care of himself, as nearly ready as some of the newborns among other vertebrates. As it is, he is stepping into a complicated and dangerous world long before his organism is ready to meet its emergencies, and therefore, the amount of help which he needs in order to survive has to be very much greater and more prolonged than any other infant of the primate class.

One part of his organism inadequately developed is the brain. The condition of the brain the first few weeks after birth, is in a state of revolution. The newborn's fore-brain is incomplete Brain centers are not yet developed. Brain circulation is not yet well established The capillary system is inadequate Speech centers and muscular coördination for walking are not developed. Even sucking, swallowing, crying, breathing, and eliminating are not yet well established immediately after birth. These factors are partly responsible for the high mortality rate during the first few months of extra-uterine life. The situation of an infant at birth makes it almost a miracle that he is born alive. He moves from a closed compartment into an open unlimited space. He moves from eternal darkness into a lighted and multi-colored environment. He moves into a sphere of vision and sound. He changes from limited positions into a milieu in which locomotion and direction is indispensable. He changes from a parasitic existence, being nourished via the mother's placenta, into an existence in which his own activity is indispensable in food taking and elimination. He changes from a state of constant sleep into a state of gradual awakening and awareness of the world around him. He changes from a situation which provides him with a safe equilibrium to a world which is to be conquered if he is to survive in it, and in which he has to gradually develop an equilibrium of his own. He moves into this world with such a suddenness, that his successful adjustment is one of life's great riddles. Within a few minutes, he practically changes from one world to another.

The infant is moving, at birth, into a totally strange set of relationships. He has no model after which he can shape his acts. He is facing, more than at any time during his subsequent life, a novel situation. We have called this response of an individual to a new situation—and the new response to an old situation—*spontaneity*. If the infant is to live, this response must be positive and unfaltering. It must be ready, on the spur of the moment. This response may be *more or less* adequate. There must be a certain amount of this s(spontaneity) factor at least in crucial moments available. A minimum of spontaneity is already required in his first day of life.

The physical growth of the embryo's organism and its anatomical readiness for the plunge in the last month of pregnancy cannot be considered a sufficient explanation for being born alive and living abundantly thereafter. There must be a factor with which Nature has graciously provided the newcomer, so that he can land safely and anchor himself, at least provisionally on an uncharted universe. This factor is more than and different from the given energy conserved in the young body of the newborn. It is a factor which enables him to reach beyond himself, to enter new situations as if carrying the organism, stimulating, and arousing all its organs to modify their structures in order that they can meet their new responsibilities. To this factor, we apply the term spontaneity (s factor)

It is secondary for the purpose of this study whether there will be found special types of genes which are responsible for the development of the s factor, or whether the s is a factor operating independently from the genes But we favor the hypothesis that the s factor is neither strictly a hereditary factor nor strictly an environmental factor. It seems to be more stimulating to the present state of biogenetic and social research to assume that there is within the range of individual expression an independent area *between* heredity and environment, influenced but not determined by hereditary (genes) and social forces (tele) The s factor would have in this area its topographical location. It is an area of relative freedom and independence from biological and social determinants, an area in which new combinatory acts and permutations, choices and decisions are formed, and from which human inventiveness and creativity emerges Certain uncomfortable but perennial inconsistencies and unpredictabilities in physical as well as in mental phenomena would find an explanation in the operation of the s factor[1] The rise of the s factor pre-

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[1] The tele factor is what is measured by sociometric tests The *s* factor is what is measured by spontaneity tests The *s* factor encourages new combinations *beyond* what genes actually determine The number of these combinations is practically unlimited The tele factor is found to operate in every social structure, but it is influenced by the *s* factor to increase or decrease its range above or below a certain level That is, the choice process of an individual can expand or decrease depending upon the *s* factor According to our hypothesis, the majority of physical and mental characteristics are gene determined, but there are combinations possible between them and the social forces (tele) whose emergence is attributed to the *s* factor According to this hypothesis identical twins brought up in an ideally supervised environment, being exposed to the same situations in the same sequence, would still *differ* from time to time in certain combinations These deviations from the combined effect of hereditary and social forces would be attributable to the pure *s* factor

It is not expected from the hereditary units (genes) to determine the relations *between* organisms The area between organisms is controlled by the tele factor It is also not expected from the hereditary units to be responsible for all the possible responses necessary in the adaptation of the organisms to novel situations within the internal or external environment The area ranging between hereditary influences and tele operations is dominated by the *s* factor The *s* factor is thus the soil out of which later the spontaneous, creative matrix of personality grows (See "Mental Catharsis and the Psychodrama," *Sociometry*, vol 3, no 3, 1940, pp 218-220) *P* suggests that the functions of memory and intelligence as specialized centers of the cerebral cortex are in formation and with this its own differentiation from them as a special function. Although single and multiple areas of the spontaneity function in the cortex are as yet unexplored and even hardly a conscious problem to the brain pathologist, the fact that this s factor can be demonstrated and isolated in action and in behavior tests of children, indicates that a somatic counterpart exists. The great plasticity of the infantile brain suggests that it is well disposed to favorable interaction with s factors. The high sensitivity of the brain tissue for s factor or, symbolically speaking, the original spontaneity of the brain tissue may be the reason why the later and gradual specialization of the brain into centers and functions is never rigid and absolute. Some degree of spontaneity of the brain tissue remains which serves in emergencies as a last resort to the nervously afflicted. It may be of value to review the brain development from the point of view of spontaneity theory, and to estimate the comparative degree of spontaneity which every part of the brain retains.

Warming up process to a new setting. The first basic manifestation of spontaneity is the *warming up* of the infant to the new setting. The warming up process is a phenomenon which can be measured. Its expansion depends upon the kind and degree of novelty to be met.

We can illustrate this warming-up process by indicating certain features the psychodramatic situation possesses which are comparable to the situation at birth. In the case of adults it is so constructed that the spontaneity of the individual can be tested. The subject is thrown abruptly into a situation which is novel to him and to which he has to warm up in order to make a rapid adjustment. The subject is often ordered to warm up *as if he*

(personality) can be defined as a function of g (genes), s (spontaneity), t (tele), and e (environment).

for two structurally identical persons, there is still an element of choice and decision which can operate to determine conduct and behavior manifestations, particularly when there is little or no neurotic or psychotic involvement. This element of choice may be set down as a non hereditary factor if you will, but it need not *ipso facto* be attributed to the environment. It is something that comes from within the individual and as such may be influenced equally by whatever goes to shape that individual within himself. Consistency need no more be a characteristic of intra-twin mates at a given moment, however identical, than of a single individual at different moments. A one hundred percent predictability of behavior is not a legitimate expectation for either." Gladys C. Schwesinger, *The Journal of Heredity*, Volume 33, Number 1, January 1942.

would not have any mental starters at his disposal (corresponding to the infant at birth who is void of mental starters) The subject may move around or begin to breathe heavily, make grimaces, clench his fists, move his lips, shout or cry—that is, he will use physical starters in order to get started, trusting that the neuro-muscular or other physical activities will eventually clinch and release more highly organized forms of expression such as rôle-taking and creative inspiration, bringing him to the maximum degree of warming up to a spontaneous act in the meeting of a novel situation

The physical self-starters, as it has been observed in spontaneous experiments with adults, work by conscious provocation of a simple act which, if properly aroused, begins, by its own momentum, to be followed up by other involuntary and voluntary actions, for instance, the tempo of breathing increases two to three times beyond the original voluntary step. The pulse count goes from seventy up to a hundred and twenty or more These involuntary phases in the warming-up process (provoked by an initial conscious step) often associate simultaneously other involuntary activities in which the neuro-muscular systems play a leading rôle, such as, perspiration, movements of arms and legs, breathlessness, loss of balance, facial expressions of panic and anxiety, and gutteral inarticulate sounds and words Aimed social actions may further advance the warming-up process into the realm of inter-personal relations

In the psychodramatic situation, furthermore, the whole world into which the actor enters—the plots, the persons, the objects in it, in all its dimensions, and its time and space—are novel to him Every step he makes forward in this world on the stage has to be defined anew Every word he speaks is defined by the word which is spoken towards him. Every movement he makes is defined, aroused and shaped by the persons and objects he encounters Every step he makes is determined by the steps of others towards him But their steps, too, are, at least, in part, determined by his own steps

We know from the study of the warming-up process in adult performance and inter-personal relations that categories of self-starters can be differentiated, that is, physical starters and mental starters The differentiation into two separate ways of starting is not yet available to the infant There appears to be very little mental activity in the new-born's starting We can well assume therefore that he makes use only of physical starters The physical starters continue to be the rescue-starters in all warming-up processes throughout the life span The adult resorts to them, especially in emergencies or when taken by surprise. As in the case of the infant, he can be so absorbed in his warming up to a spontaneous act that he can be manifestly at least, void of mental images. Unlike the infant, the adult has, of course, developed mental, social, and psychochemical starters, which independently may initiate his warming up as well as interact with physical starters.

In some of the experiments made with adults using physical starters as a means of warming up—many subjects failed to reach the level of *mentation*. They stopped abruptly in the middle of the act and gave up. It was apparent, then, that the warming up process does not have to reach the level of mentation but can *terminate* at any point in the process below this level. This may be the infant's way of warming up. He uses physical starters, the act is terminated more or less below the level of mentation and provoked by physical stimuli.

In the birth situation, the physical starters are stirred up long before the act of birth takes place. The "to-be-born" embryo is using his own physical starters, his head or feet, to push against the muscular walls of the womb in order to gain momentum gradually. When he comes to numerous dead ends, he is rescued and aided from time to time by the mother's own physical starters, voluntary action and involuntary muscular contractions, as a process in warming herself up to an act of expulsion. The moment of birth is the maximum degree of warming up to the spontaneous act of being born into a new setting, to which he must make a rapid adjustment. It is not a trauma but the end stage of an act for which nine months of preparation were required. The infant is the actor. He has to act in rôles without having an *ego* or personality to act with. Like the impromptu actor, every step he makes in the world is new. He has to act quickly on the spur of the *moment*—that moment when a new breathing apparatus is put into function, or that moment when he must, for the first time, suck fluid from the breast or bottle.

As we have pointed out, the infant binds its spontaneous energy to the new milieu via the *physical starters* of the warming up process. As we know, it would not be successful in this effort, if the *mental starters* of auxiliary egos—mothers, midwives, and nurses—in this milieu would not come to his rescue, i.e., by caring for and feeding him. Of course, the warming up to the act of birth has been a perpetual drive to the infant for such a long period that any *delay* on the part of these auxiliary egos once the machinery of delivery is in process cannot but stimulate the self-starting of the infant. If this delay surpasses a certain point, this effort exhausts the infant and, as the mother becomes exhausted, an advantage is turned into a calamity.

We know, then, that the infant is capable of self-starting to some extent both in his effort to be born and in his life-rôles thereafter (eater, eliminator, etc.) But the degrees of spontaneous readiness in getting started differ from one infant to another. Certain infants may have difficulties in being born, while others are born with very little effort. Some infants need some support in pushing themselves through the birth canal, some infants need instrumental assistance, or surgical treatment endangering not only their own lives but those of others. Some infants have difficulties in starting to breathe, they lag in the physical starting of the final rhythmic breathing act.[2]

Even the start of sucking for many infants is not as adequate as is generally assumed. Some infants do not get started until the nipple is pressed upon their lips, or the warm liquid enters their mouths. The degree of spontaneous readiness in sucking ranges from the over-eager self-starting infant to the uninterested infant in which case a great deal of manipulation is required to stimulate the rhythm of sucking.

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[2] In a philosophy of the Moment there are three factors to be emphasized: the locus, the status nascendi and the matrix. These represent three views of the same process. There is no 'thing' without its locus, no locus without its status nascendi, and no status nascendi without its matrix. The locus of a flower, for instance, is in the bed where it is growing. Its status nascendi is that of a growing thing as it springs from the seed. Its matrix is the fertile seed itself. Every human act or performance has a primary action-pattern—a status nascendi. An example is the performance of eating which begins to develop the role of the eater in every infant soon after birth. The pattern of gestures and movements leading up to the state of satiation is, in this instance, the warming-up process." See Moreno, J. L., "Foundations of Sociometry", *Sociometry*, vol. 4, no. 1, 1941. These principles can be applied to the origin of the human organism. The locus nascendi is the placenta in the mother's womb, the status nascendi is the time of conception. The matrix nascendi is the fertilized egg from which the embryo develops. The initial phase of a living process has been greatly neglected as compared with more advanced phases and the terminal phase. It has been a chief contribution of spontaneity and creativity research that the conception process of, for instance, the Ninth Symphony of Beethoven is of, at least equal, if not greater, importance than the "birth" of the work. When dealing with a living organism, we are turning our attention from the level at birth back to the level of conception itself. Methods for the *direct* study of the embryo in its intrauterine environment are coming nearer to the orbit of technical fulfillment. Motion pictures of embryonic life throughout the nine months of pregnancy are necessary in order that we may get a view of his responses from stage to stage. It may be that some technical apparatus will be forthcoming in the form of a type of ***moving X-ray pictures*** combining the techniques of the moving picture with those of X-ray photography.

The warming-up process is, therefore, a concrete, tangible, and measurable indication that the s factors are operating. It is from the analysis and measurement of the warming-up process that we can determine the presence and the action range of the s factors. If there is no sign of warming up, we conclude an absence or loss of spontaneity. If there is some degree of warming up detectable in one sector of an area, then we conclude that a corresponding degree of spontaneity is operating in this sector. It does not indicate, however, that s factors operate in other sectors of a given area or in other areas, as long as no signs of a warming-up process are manifest there. An optimum or a maximum degree of warming up would indicate that s factors operate in a given area in an optimum or maximum degree. An over-heated warming-up process would indicate that a surplus of s factors are operating in a given area—that is, beyond what is required for an equilibrated act.

The warming-up process manifests itself in every expression of the living organism *as it strives towards an act.* It has a somatic expression, a psychological expression, and a social expression. The varieties of its expression depend upon the differentiation of the organism and the environment in which it exists. The somatic expression of the warming-up process is specialized around many *focal* areas (zones), which serve as physical starters to warming up.

The Function of the Warming-up Process and the Matrix of Identity

Zones as loci nascendi[8] *for the Warming-up Process*

It is paradoxical that the infant has at birth an organism whose anatomic and physiological unity is never greater. But he has no world of his own within which to operate. He is an actor—without words and almost without a cerebral cortex. He is compelled to form his world on the basis of small and weakly related zones, scattered unevenly over the body

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[8] I have observed, experimenting with numerous patients and non-patients, that *every warming up process which covers a small range of the personality can be absorbed and for the time being undone by any warming up process which has a wider range but which includes these parts at the same time.* I have seen this mechanism at work so often that I feel justified to consider it as a practical rule. It is on the basis of this

These zones can be divided into operational zones and non-operational zones One can devise a scale, placing at one end of the scale, the body zones which have the highest operational intensity and frequency of function, and on the other end of the scale, a near neutral intensity and near zero frequency of function. These zones—the visual zone, the nasal zone, the mouth zone, etc ,—are already in formation during the first week of the infant's life The significance of every zone is that it is formed in behalf of an indispensable function of the infant, and therefore arouses the infant to concentrate upon the acting out of this function Any time an object comes near the visual zone, a warming-up process takes place in which the neuro-muscular system of the zone plays a leading rôle In the mouth zone, for instance, the intake of nourishment is associated with the imbibing of the foods which require the participation of the neuro-muscular tissues of lips and inner mouth. A different set of muscles is activated around the anal zone in warming up to the act of elimination.

Each warming-up process has a focus It tends to be localized in a zone as its *locus nascendi* However, the first sensitized areas—sensitized by these acts of warming-up—are not literally attached to the skin of the infant. There is no mouth zone, anal zone, actually, but zones of which the mouth or the anus are a part The zone is, in this "sociometric" sense, an area to which, for example, the mouth, the nipple of the mother's breast, the milk fluid, and the air between them are contributing factors. Whenever these components come to a focus, the zone emerges into action

Every zone is the focal point of a physical starter in the process of warming up to a spontaneous actuality state—such state or states being components in the shaping of a "rôle " Every zone is formed in behalf of an indispensable function of the infant At times, it becomes the source of a starter—physical or mental—in the process of warming up to a spontaneous actuality state In addition to being a zone, related to a given organism, it becomes the *locus nascendi* of starters warming up towards objects and persons. It becomes the focal point of the spontaneous act itself On the physical level, one zone is never entirely separated from every other zone, it involves at the time of functioning, to some extent, the whole organism. But we are dealing here with a construction of the experiential actualities of the

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observation that a significant therapeutic technique developed See Moreno, J L. "Interpersonal Therapy and the Psychopathology of Interpersonal Relations," Sociometry, vol I, Part 1, 1937 infant and not with his physical set-up, the warming-up process with a physical set of starters of a particular zone has the tendency to separate and isolate that zone on the actuality level *more* than the physical situation would indicate. In the act of taking nourishment, for instance, the mouth becomes the focal point for a specific warming-up process on the experiential actuality level, even though hunger pangs and contractions in the stomach involve indirectly the entire organism. This focal point of interest appears to make the infant more remote as to what is happening to another zone of his body than he would be in a period of inaction of that zone. Focusing, therefore, on a specific warming-up process increases attention upon the immediate act, and thus a tendency towards increased specialization of numerous tracks for the corresponding warming-up process is encouraged.

The various zones develop gradually various relationships on the actuality level. Certain zones tend toward co-action and cooperation, as the mouth zone with the throat zone, the bladder zone with the anal zone, the visual zone with the hearing zone, etc. Certain zones tend to exclude one another, as the manual zone and the throat zone, the bladder zone and visual zone. Some zones tend to remain neutral. As the infant grows in structure the experiential actuality level becomes more complex. Certain zones which have been comparatively separatists begin to interact more, and turn out a chain of zones or bodily segments. Accordingly, on the experiential actuality level, the particular warming-up processes will interact, and the result will be that one set of physical starters, let us say that of the oral zone, will gradually arouse the throat zone and the anal zone and lead to a sort of counterpart of the bodily segmentation, a segmentation on the actuality level. Therefore, the organism of the infant which consisted originally of so and so many separated segments superimposed upon the various zones of the organism, will begin to merge them into large areas of the body. The larger the area of the body which the warming up takes into its stride, the larger the number of neuro-muscular units stimulated. The infant will begin to be identical with a large area of the body at one time, with another large area of the body at another time—not knowing that they actually belong together, and yet far from discovering that some day he will be labeled their individual owner.

The Auxiliary ego as a part of the infant's warming-up process and rôle-playing. Just as some infant needs a helper to be born, he also needs aides in order to eat, sleep, or move around in space. From the point of view of the child, these helpers appear like extensions of his own body, as he is too weak and immature to produce these actions by his own effort They have to be provided for him by the outside world—mother, father, or nurse. We have called an extension of one's ego, which is necessary for his adequate living performance and which has to be provided for him by a substitute person, an auxiliary ego

The function of the auxiliary ego has been found indispensable in the experimental setting of the psychodrama as a concept for the understanding of the interpersonal process on the stage as well as a tool for treatment The auxiliary ego has, in the psychodramatic situation, two functions—that of portraying rôles and that of guidance. The first function is that of portraying a rôle of a person *required* by the subject, the second function is that of guiding the subject by warming up to his anxieties, shortcomings, and needs in order to guide him towards a better solution of his problems. The natural setting of the mother-child relationship is comparable to the auxiliary ego-subject relation of the psychodramatic situation The mother, also, has two functions, the one is that of acting in the rôle of a mother adequately, the other one is that of developing a clear picture of the needs and rhythm of the infant in order that she can warm up to his requirements to help him function adequately

It will be seen that, by means of the concept of the auxiliary ego, many heretofore unrelated phenomena in child development which had to be explained by various theories, can be explained by a single hypothesis which is able to bring all developmental data into a unified view This single hypothesis is based on the fact that the mother-child relationship is a two-way relation involving coöperative action rather than individual behavior patterns separated from each other

Rôle of the eater It is usually considered as one act if two parts of the body operate jointly in its performance, as, for instance, the two feet in walking, the two eyes in seeing, or the right and left arm in holding and clinging However, some process of adjustment is necessary until such performance becomes smooth In holding something with both hands, for instance, the warming-up process in which the left hand is involved may not harmonize at all times with the warming-up process in which the right hand is involved In essence, the fact that one tool, as for instance, the mother's breast or the bottle, is not immediately attached to the organism of the infant, does not produce a different situation. The problem of inter-adjustment between organic and extra-organic tools is not of a different order than the problem of inter-adjustment between one organic tool and another within the same organism. The difficulty sets in only because these tools belong to two different persons, in this case, to the child and the mother. These tools arouse in both of them cross-psychological conditions of a different nature and require them to merge into a single flow of action, each with his own starting point. Each in the warming-up process to the act of eating puts a different set of bodily starters into motion—for instance the mother, her breasts and arms, holding the nipple of her breasts tight upon the child's lips, or if it is a milk bottle, bent to a similar angle, and the child hypnotically attracted to food, sucking the fluid with his mouth. In the course of the two-way warming up, with one aim—the satisfaction of the child's hunger, the physical adjustment efforts go hand *in hand with mental adjustment efforts.* The *mother* (auxiliary ego) produces a mental picture of her child, when in the process of rôle-taking, but, in reverse, the child also participates in being given food (bottle or breast, hands of the mother, etc.) as well as taking it into his mouth. The mental picture which the mother has of the child is a consummate of auxiliary images. These images are often aroused by sensations of fear that the child is not sufficiently fed and the mother will be induced by them to increase the tempo of feeding beyond the needs of the infant. Vice versa, the infant may refuse the tempo below his own need-level, and thus various forms of maladjustment occur which distort the performance of learning how to eat.

Differing from the organs (hands, tongue, etc.) which are fixed to his body, and which are at his immediate disposal in an emergency, the mother with all her auxiliary ego tools is fully detached and independent from him. She moves away from him, abandoning him, but returns to him when his anxiety is manifest. It is a peculiar shock in the experience of the growing infant to discover the difference between attached and detached tools. The "I" and "you" have not yet emerged. He experiences tools which are attached to him and tools which are detached, but he is not yet aware of the difference between these two types of tools since he is not aware that some of these tools belong to other individuals just as he is not aware that some of them are his *own* tools. In other words, the tools attached to his mother, and the tools attached to himself are all in the feeding act and remain so even when the mother's tools (breast or bottle, hands, etc.) are moved away from him *after* the feeding act. For that matter, in the first days of life, the infant experiences all objects and persons as co-existent with him, belonging to him, or himself as being co-existent with them or belonging to them.

Just as the mother experiences the infant's side of the warming-up chain, the child participates still more deeply, because of his greater receptivity and suggestibility, not only his side as the food receiver, but also the mother's side of it, that is, the infant experiences the bottle or the breast coming towards him, the nipple touching his lips, the receiving of this nipple and the imbibing of the food as *one act* In order to give still further emphasis to this co-action and co-being we give the illustration of the infant so absorbed in his sucking, that he cannot be diverted from this act by even so disturbing an act as tickling his foot Although we observe a flexible withdrawal of the foot, there is no change in his focus upon the feeding act, no slowing up, no change in his visual attention, no sign of any change can be noticed in his original action One activity at a time excludes every other activity, one focus every other focus He warms up exclusively to immediate situations He lives in immediate time

This co-being, co-action, and co-experience, which, in the primary phase, exemplify the infant's relationship to the persons and things around him, are characteristics of the *matrix of identity* This matrix of identity lays the foundation for the first emotional learning process of the infant

Once the matrix of identity is established, and the complex of images closely associated with his intense participation in the "oneness" of the act is in ready form in the child, the foundation is laid for "future" combinatory acts Since the action of the mother is an extension of *his* action, he can afford in the course of time to leave out a part of it—his own end, and to concentrate on the mother's part—the other end of the matrix. By this transaction, he may lay the ground for the future reversal of the warming-up chain. Playing the rôle of the "other" does not appear suddenly and full-grown to the infant, but goes through several stages of development which overlap and often work hand in hand

The first stage is that of the other person being a part of the infant in all earnestness—that is, complete spontaneous all-identity

The second stage is that of the infant centering attention upon the other stranger part of him

The third stage is that of the infant lifting the other part from the continuity of experience and leaving all other parts out, including himself.

The fourth stage is that of the infant placing himself actively in the other part and acting its rôle.

The fifth stage is that of the infant acting in the rôle of the other towards someone else, who in turn acts in his rôle. With this stage, the act of reversal of identity is complete.

These five stages represent the psychological bases for all rôle processes and for such phenomena as imitation, identification, projection and transference. Certainly the two final acts of reversal do not occur in the first few months of the infant's life. But, some day the infant will reverse the picture by taking the rôle of the one who gives food, of the one who puts asleep, of the one who carries him and moves him around. We have, then, two phases of the matrix of identity: first, the phase of identity or unity as in the eating act, and, second, the phase of using that experience in the reversing of identity.

Within the fold of identity, the process of infantile role-taking[4] occurs. Infantile rôle taking consists of two functions—rôle-giving (giver) and rôle-receiving (receiver). In the feeding situation, for example, the rôle-giving (giver) is acted out by the auxiliary ego (mother), and the rôle receiving is acted out by the infant in receiving nourishment. The mother, in giving food, warms up towards the infant to acts of a certain inner consistency. The infant, on the other hand, in receiving food warms up to a chain of acts which, also, develop some degree of inner consistency. The result of this interaction is that a certain reciprocal rôle-expectancy is gradually established in the partners of the rôle-process. This role-expectancy lays the ground for all future rôle exchange between the infant and auxiliary egos.

The image-building and co-action process in the rôle-taking of the eater gives us a key for understanding the underlying causes in the process of emotional learning ascribed by some to imitation. The concept of imitation is often expressed as a one-way relation or one-way rôle relation. It refers to the child imitating the mother, the way he eats and copies her behavior. The same is true of projection as regards the leaving out of the processes of the other person interacting with the child. Projection is often referred to when the child assumes that an animal or doll has similar experience to his own. It certainly is without meaning in the primary behavior of the infant The idea of projection implies that a human being, an animal, or an object are independent and apart from the person projecting Projection behavior of this kind is impossible for a being who lives within *one* sphere, however uneven and unstable that one sphere may be within itself. Projection can also mean localizing a stimulus at its assumed origin, for instance, pain in the stomach But the projector and the locus of projection are parts of the same technique of warming up and are not yet separated by the infant A mechanism such as projection cannot emerge at this level of growth

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[4] Every role is a fusion of private and collective elements. A role is composed of two parts—its collective denominator and its individual differential. It may be useful to differentiate between *role-taking*—which is the taking of a finished, fully established role which does not permit the individual any variation, any degree of freedom—*role playing*—which permits the individual some degree of freedom—and *role-creating*—which permits the individual a high degree of freedom, as for instance, the *spontaneity player*. See Moreno, J. L., "Sociodrama", *Psychodrama Monograph*, No. 1, 1944.

Likewise, identification is without meaning in the first world of the infant It implies two separated egos, whose existence is definitely established, otherwise, the desire for finding himself identical with other persons outside of him and the fulfillment of identification cannot take place It implies that the infant is capable of experiencing himself as an ego in relation to another It implies, further, that the infant is able to recognize portions of his ego as being different from portions of the other ego, or portions of his ego which are similar to that of the other ego Identification is not given, but is the result of a striving beyond or away from what one *is* Obviously the infant is unable to experience such a complicated process We question, therefore, that primary infantile learning is based on operations such as projection, imitation and identification The hypothesis of the matrix of identify permits a more plausible explanation of the earliest forms of learning

The growth of the reversal strategy of the child is an indicator of the freedom from the auxiliary ego, the mother or the mother-substitute. It signifies the first step in the liberation of the child from dependents, if not in fact, at least in its imagery It gives reinforcement too in the imagery of being grown up some day and doing everything for himself without the aid of an auxiliary ego The initial phase of co-experience and collaboration with the stronger ego, provides the child with an incentive for independent action

As the infant matures, although still within the matrix of identity or unified experience, the amount of assistance which the auxiliary ego has to render to the infant becomes less and less, and the amount of activity with which the infant participates becomes larger and larger, in other words, the auxiliary ego (the mother) is an aide in shaping the infant's own rôles, permitting him gradually more independence This process of intercommunication between infant and mother is the nourishing matrix of the first independent rôle-taking of the infant

THE UNIVERSE OF THE INFANT

The matrix of identity is the infant's social placenta, the locus in which he roots. It gives the human infant safety, orientation and guidance. The world around it is called the *first* universe, as it has many characteristics by which it is set apart from the final, the second world. The matrix of identity breaks up gradually as the infant becomes more autonomous, that is, some degree of self-starting develops in one function after the other, such as in feeding, eliminating, reaching, and locomotion, his dependency upon auxiliary egos begins to decrease.[5] The first universe ends when the infantile experience of a world in which everything is real begins to break up into fantasy and reality. Image-building develops rapidly, and the differentiation between real and imagined things begins to take form.

Long period of infancy, a characteristic of the first universe. The psychoanalytic theory that the intra-uterine existence of the embryo is too short, implying that a longer pregnancy might be more desirable, is a misapprehension. If the pregnancy state of the human infant could be prolonged by an experiment of nature or, by some technological device, be extended from nine months, let us say, to fifteen months, the result might be that the human infant would be born fully developed and would compare much better with the primate and other vertebrate infants. He might arrive quite independent and self-sufficient, but he would have sacrificed the opportunities for which the social placenta prepares him to a prolonged incubation in a narrow rebounding environment. He would have sacrificed the productive culture-bearing association with active and highly organized beings, to a life in isolation. Last, but not least, he might have arrived, because of his comparative self sufficiency, much less in need of help but also less sensitive for the aculturation of the social heritage incorporated in the auxiliary egos of the new environment. Our conclusions therefore, are that any prolongation of the human pregnancy would be a calamity for the infant, that its length seems rather well planned than otherwise, and that the infant is born at a strategic moment for the development of his spontaneous potentialities. If he dares to be born less self-sufficient than other animals, it is that the s factors and resourcefulness of the matrix permit him the "jump." Last but not least, the human species is the genius among the primates, and a prolonged latency period is commonly found with geniuses.

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[5] "According to our hypothesis a mental operation like all-identity must have pre-existed in the infant before an operation like identification can take place." See Moreno, J. L., "Sociodrama," *Psychodrama Monograph*, No. 1, 1944.

Infantile amnesia and the act-hunger syndrome. One of the important characteristics of the first universe is the total amnesia which we have for about the first three years of our life It cannot be satisfactorily explained by the inferior development of the brain; the amnesia continues long after the cerebral cortex is fairly established. It cannot be explained by unconscious mechanisms such as repression, because little is registered which *can* be remembered, and nothing can be repressed which is not remembered

This amnesia is total and indisputable for the older child or adult, looking back from his stage of development, trying to remember the inner and outer events which have surrounded him during the first three years of life For the infant and the young child growing up, the situation is somewhat different. Some registration takes place, certainly after the first few months as the infant shows signs of remembering certain persons and objects like the foods and the mother with whom he has been intimately acquainted. But he forgets easily—his remembering has a short span The amount of registration of acts and events must be, therefore, weak and rare.

Our explanation of amnesia is based upon the warming-up process to a spontaneous act Hundreds of spontaneity tests with subjects of all ages have demonstrated that in order that the subject may remember at a later date what has taken place during the act, he must register the events as the warming up to the act goes on. A certain part of his ego must set itself aside as a sort of *internal* participant observer and register the events. Only if an event has been registered, can it be remembered, and only if it has been remembered, can it be forgotten. Only events which have been registered or remembered can be repressed. The conclusion is that, in such cases, when nothing is remembered by the subject of acts and events which have taken place in and around him, such an inner participant observer did not develop. It did not establish itself, because every part of the subject of the person was included in the act

The experience of the infant can be considered as a parallel on a magnified scale of the fully spontaneous subject on the psychodramatic stage We must assume that the infant warms up to spontaneous acts with such a degree of intensity that every particle of his being participates in it—that not the least fragment in it can be left out for purposes of registration. Where there is no registration, there is no remembering possible The infant doesn't permit any part of its being to function in any reference except that of the moment—the immediate situation. This undivided absorption of the infant in the act[6] to which it is warming up is the basic reason why the two dimensions of time, the dimension of the past and the dimension of the future, are undeveloped, or at best, rudimentary It is the *past* in which we store our memories, and it is the *future* which may profit from their registration

Our attempts at measuring the memory span of infants have shown that it *increases* in backward range as well as in clarity as the infant grows older, but the amount of registration and consequent memory fixation is continuously swept away - flooded out by the overwhelming absorption of the infant in the acts in which he is involved at the moment The infant develops intermittently, so to speak, a *retroactive amnesia* even for the slight amount of registration of acts and events which he has been able to retain The act-hunger of the infant is so great and so incessant that he uses all his energy up for this and as little as possible, for such an apparently negligible thing as remembering (this remembering is done by the auxiliary ego for him) We must conclude that the recurrent retroactive amnesias of the infant sum up to *the total amnesia effect* which the older child and the adult have for the first three years of their lives As the structure of time, its past and future dimensions, are so weakly developed in the infant, learning by remembering is not possible The foundation of his learning process must have a different basis As we know now, it has a special anchorage—the matrix of identity

The first great area of human existence stretching over nearly three years of life, seems to belong together like a domain, a world of its own It has characteristics quite different from the types of experience which the child has after the past and the future begin to take more specific shape, and the breach between fantasy and reality initiates two basically different trends of warming-up processes. It seems, therefore, a useful theoretical construct to consider the first universe apart as a special *age* of life, such as childhood, adolescence, adulthood, and senescence.

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[6] "Emphasis upon contents results in the split of the individual into an *act personality* and a *content* personality We found it a valuable hypothesis to assume that two different memory centers develop, an *act center* and a *content center*, and continue as, in general, separate structures without connection A content is not received at the same moment when an act arises, but the former in a dull, untoned state and the latter in a highly heated state, they trace in the nervous system different paths In consequence they do not recur simultaneously, filling one moment, uniting the whole personality with one action but at different times, separated from each other The material learned does not reach the act-center of personality A shut-in memory develops and prevents the integration of the factual knowledge into the active personality of the individual The knowledge remains undigested, unabsorbed by the personality, and hinders its full influence upon his activity and judgment" See Moreno, J L, "Who Shall Survive?", 1934, page 329

Progression or retardation, trauma or catharsis. The "long" period of infancy has been interpreted by psychoanalysts as a process of retardation and compared with the retardation of the neurotic adult. But it seems to us more plausible to judge that the test of a maturation process lies in its achievement. The early termination of intra-uterine existence can be explained by the superior act-hunger of the human infant and the search for an expanding and more stimulating universe than the intra-uterine milieu provides Some relative slowness of one function or another, for instance self-feeding, may be a proper sacrifice for more future-bearing lines of development. The long period of dependency of the human infant can be explained by an eager apprenticeship, progressing, maturing, and graduating into a world which is incomparably more complicated than the world into which the primate infant graduates, and for whose successful integration he needs incomparably greater resourcefulness (s factor)

Another psychoanalytic concept is that of birth as a trauma from which shock an infant has a hard time to recover. It would be analogous to psychodramatic shock if we could force the infant to stay in the mother or to return to his intra-uterine existence. But the act of birth, for which he and his maternal partner have been preparing themselves for nine months, is the opposite of trauma. It is a deep-reaching catharsis for mother as well as infant A spontaneity theory of child development evaluates the growth of the infant in positive terms, and in terms of progression, rather than in negative terms and in terms of retardation and regression

Infantile time and the concept of the moment; infantile space and the emergence of the tele The subjective concept of adult time has three dimensions—past, present, and future The infantile time has but one dimension—the present The infant warms up to immediate situations, if he warms up at all, and to immediate time This is exemplified in the feeding act He behaves as if he would suffer from an *act-hunger* syndrome To his act-hunger corresponds the category of the present,—of the moment

The dimension of the past develops much later, and it is in conjunction with a past that concepts like cause or unconscious can develop It is a fallacy to refer to the unconscious as if it would be the substance from which all mental phenomena emerge For an act-personality, like that of the infant, living predominantly in acts, the concept of the unconscious does not exist.

The psychological space of the infant develops parallel with the telencephalon Physical distance receptors, such as visual and auditory, enable him to develop the physical contours of space They by themselves, are unable to develop a relationship between the infant and the persons and things around him as he doesn't experience them as outside or inside of him They appear as one manifold—the matrix of identity In the earliest phase of the matrix of identity, nearness and distance are not yet differentiated by the infant But gradually the sense for nearness and distance develops and the infant begins to be drawn towards persons and objects or to withdraw from them This is the first social reflex—indicating the emergence of the tele-factor, and is the nucleus of the later attraction-repulsion patterns and specialized emotions—in other words, of the social forces surrounding the later individual. It seems that parallel with the development of physical receptors, visual and auditory, of the infantile cerebral cortex, the tele factor develops stimulated by them, and in turn, stimulates their development The tele factor must, in its earliest form, be undifferentiated, a matrix of identity tele gradually, a tele for objects separates itself from a tele for persons A positive tele separates itself from a negative tele, and a tele for real objects from a tele of imagined objects

The dreamless state of the infant Origin of the dream and the unconscious. It appears that the infant goes, in his first universe, through two periods: the first period is the period of all-identity, in which all things, persons, objects, including himself are not differentiated as such but are experienced as one undivided manifold, the second period is the period of differentiated all-identity or of all-reality, in which objects, animals, persons, and finally himself have become differentiated But there is no difference yet made between real and imagined between animated and dead, between appearances of things (mirror images) and things as they really are If this theory is correct, a good argument can be made for the idea that the infant does not dream during this first period It has been pointed out in our discussion on amnesia that the infant is unable to register or remember events, and this inability is the greater the younger the infant is, that, in itself, would limit the possibility of dreaming to such dreams as are provoked momentarily in the course of sleeping It would exclude dreams which are provoked by events in the past, however recent those events may be. In other words, the only type of infantile dream which can be theoretically visualized is the one which is immediately provoked by a situation which stimulates or scares the infant on the spur of the moment, without awakening it There is, however, another argument which cancels the possibility of even such dreams provoked by immediate situations. All dreams which we have objectified on the psychodramatic stage as well as those analyzed by previous investigators do *not* possess the structure of all-identity experience, in which things, persons, and objects are undifferentiated, but have already the structure of the all-reality experience, that is, in all dreams, things, persons and objects are differentiated, although there is *no* differentiation between real and imagined, between the appearances of things and their reality This would indicate that dreams, *as we know them,* cannot be produced in the period of all-identity, indeed, the dream phenomenon must have its emergence long after the period of all-reality has started to break up *The beginning of dreaming must be related to a decreasing intensity of the act-hunger of the infant* The dream-hunger of the infant would increase in inverse proportion to the act-hunger of the infant The dream-hunger will be greatly enhanced when the breach between fantasy and reality is experienced by the child

This would do away with the idea that infants dream from birth on—that the analysis of dreams can be used as the major route to the understanding of the infantile behavior of the first weeks Psychoanalytic interpretations based on this premise would not fit into this hypothesis Freud says in the 'Interpretation of Dreams'. "What once prevailed in the waking state, when our psychic life was still young and inefficient, seems to have been banished into our nocturnal life . Dreaming is a fragment of the superseded psychic life of the child." He says further· "Dreaming is, on the whole, an act of regression to the earliest relationships of the dreamer, a resuscitation of his childhood, of the impulses which were then dominant and the modes of expression which were then available. Behind this childhood of the individual we are then promised an insight into phylogenetic childhood, into the evolution of the human race, of which the development of the individual is only an abridged repetition influenced by the fortuitous circumstances of life We begin to suspect that Friedrich Nietzsche was right when he said that in a dream 'there persists a primordial part of humanity which we can no longer reach by a direct path . .'" We are here at the core of one of Freud's most profound inspirations. But granted that the dream is a hangover from early childhood, the generalization he drew from it is probably an error The dream does not reach endlessly into the past, but it has a beginning, an origin. *It cannot originate earlier than the period in which wake existence has a* *structure similar to the nocturnal dream* The structure of the wake life of the infant immediately after birth, however, is far more primitive than the structure of the nocturnal dream reveals We cannot discern in the structure of the matrix of identity—which dominates the wake life of the infant—anything resembling the structure of the nocturnal dream It is not until the period of all-reality emerges that imageries appear in the *wake* life of the infant which resembles the nocturnal dream structure The hope of psychoanalysts, therefore, that the dream can be used as the fountain-head of the archaic experiences of mankind may have to be set aside As long as it is probable that the dream is a comparative late-comer in the development of psychic processes, originating in the period of all-reality, the theory of the unconscious itself loses the main justification of its existence

Pathological effects of mechanical devices It is interesting to reflect as to how the industrial revolution affects the first universe and what tricky devices man invents to save his energy even in the process of child bearing and rearing Certainly the old Faustian dream is far off—that of breeding an embryo in a test tube, freeing the mother from the discomforts of pregnancy and the infant from dependency upon another person, giving him complete autonomy with the aid of a mechanical device

However, there are actually, on a minor scale, time-saving devices, widely used, which present a problem in the first weeks of the infant's life The baby is often left alone to suck the milk from the bottle, *without aid.*

As long as the baby was breast fed the mother could not separate herself from her own breast, leave the baby, and do some work by herself. She had to stay in closest proximity to the baby, providing him with food as well as with her person, her mothering, a stimulating and at times, an over-stimulating agent

The replacement of an auxiliary ego, the mother, by an *auxiliary object,* the bottle, cannot be without serious consequences—at least, in a period during which the emotional foundations of learning are being built. The milk bottle tempts many mothers to reduce their own presence in the act of feeding to a minimum and to fix a device which will propel the bottle automatically into the mouth of the baby until his hunger is satisfied

The tendency to relieve themselves from a time-consuming task is growing, and the phenomenon should be carefully analyzed as to its pros and cons, before it takes more alarming proportions. Sociometric investigators have pointed out that the organic isolation of the embryo is continued for a short period after birth until the emergence of the tele starts the first interpersonal structures. But some infants perpetuate the pattern of organic isolation by social isolation. Indeed, a considerable percentage of individuals show the tendency towards being underchosen or isolated in groups throughout their lifetime, the question is whether the auxiliary ego in the form of the mother has not had, since time immemorial, a deeper function to fulfill than just to be the source of the infant's food. Perhaps our less learned but more intuitive ancestors have done better with their infants than we have, at least in this particular phase which we have described above.

We had occasion before this to point out a similar device of saving energy operating later in the life of the child—the time when the doll has such a paramount rôle in the child's world. The doll, because of its intentional semblance to human beings or humanized animals, represents in 'our culture' at least, a significant function of its sociopathology. Beings who can be loved and hated in excess, and who cannot love or fight back, who can be destroyed without murmur, in other words dolls are like individuals who have lost all their spontaneity. This *dead-aliveness* of the doll should become an earnest concern to parents and educators, as we are placing it not into a museum, but into the hands of our children. Dolls become their best comrades, memories to which they return in their adolescent fantasies. Toys such as dolls are inanimate objects and the child can create the rôles of master and slave. The toys cannot fight back if and when the child exerts his physical strength by mishandling or destroying the toy. This is contrary to the very principles of democracy. The function of dolls in the early life of children must undergo a revision. We do not wish to warn against their discrete use. Their reckless application cannot be but harmful. Children get used to 'easy' spontaneity. But the difficulty can be surmounted. Our homes and nursery schools should replace many of their doll equipments by auxiliary egos, real individuals, who take the 'part' of dolls. The individuals portraying doll rôles and fantastic situations are trained to reduce their own and permit the child a greater amount of spontaneity than in real situations, but behind the doll playing subject, there is a real, feeling person. The child will learn by the auxiliary ego technique what he cannot learn by the doll playing technique,—that there are limits to the extremes of love just as well as to the extremes of hate. Leaving the child alone with his dolls is parallel to leaving the baby alone with the bottle, an auxiliary object.

BREACH BETWEEN FANTASY AND REALITY EXPERIENCE

At a certain point in child development, with the beginning of the "second" universe, personality becomes normally divided Two sets of warming-up process forms, the one towards reality acts and the other towards fantasy acts begin to organize themselves The more deeply engraved these tracks are, the harder it becomes to shift from one to the other on the spur of the moment The problem is not that of abandoning the fantasy world in favor of the reality world or vice versa, which is practically impossible, but rather to establish means by which the individual can gain full mastery over the situation, living in both tracks, but being able to shift from one to the other The factor which can secure this mastery for rapid shifting is spontaneity, but obviously not spontaneity as an instinctive factor of which one happens to have more or less available, but as a conscious and constructive principle in building up personality—spontaneity training Without the function of spontaneity to facilitate the shift, the warming-up process can produce a mental set in one track to the degree that it hampers or harms the relationship of the individual to real situations and real objects, or to imagined situations and imagined objects (as no individual can live permanently in an entirely real world or in an entirely imagined world) The reality function operates by interpolations of resistances which are not introduced by the infant, but which are imposed upon him by other persons, their relationships, by things and distances in space, and by acts and distances in time The fantasy or psychodramatic function is free of these extra-personal resistances, unless he interpolates his own resistance

The infant begins to develop two emotional tracks in his universe They may run independently, never to meet again The infant would live then in two dimensions at the same time, the one real, the other unreal, without being disturbed by the division, or it may be that the two tracks, A and B, may from time to time strive towards a reunion, a re-establishment of the original status. These strivings may bring about collisions between the two tracks, produce blocking and bring the flow of spontaneity to inertia It is the latter which actually happens to human personality. As long as he lives, he tries to merge the original breach and because he remains, in principle, unsuccessful, the human personality, even in its most integrated examples, has a tragic touch of *relative* imperfection. There is this continuous struggle within the individual trying to maintain a balance between these two different routes into which his spontaneity attempts to flow. He is like a man who has two saving accounts and deposits in one such things that he would not or cannot deposit in the other. The deeper significance of this struggle comes from the inability of the infant to continue the uniformity of his first universe, where all the warming-up processes in the rôle-taking were centralized and uniform. However enormous his anxieties and insecurities then were, he did have to separate one part of his self from the other He may have been non-conscious and weak, but he was, at least, united in living in one world and not in two, since, as we discussed before, the young infant had not yet learned to differentiate the two functions, reality and fantasy The transition from the first to the second universe (that period when he becomes aware of reality and fantasy) brings about a total change in the sociodynamics in the universe of the infant

Out of the breach between reality and fantasy, two new sets of rôles emerge As long as this breach did not exist, all real and fantasy components were merged into one set of rôles, *psychosomatic* rôles An illustration is the rôle of the eater But from the division of the universe into real and fictitious phenomena gradually a social world and a fantasy world emerge separated from the psychosomatic world in the matrix of identity. Forms of rôle-playing are now emerging which correlate the infant to persons, things, and goals in an actual setting outside of himself, and to persons, objects and goals which he *imagines* are outside of him They are called respectively *social rôles* [the parent] and *psychodramatic rôles* [the god]

Development of the s Factor

Rich clinical material in psychodramatic sessions has provoked the first formulation of the s factor. Proof of its existence has gained in support from experiments with surprise situations from which factors like intelligence, memory, and conditioning had been eliminated A number of researches are now in progress which aim at a statistical demonstration of the s factor and at determining the statistical probability of its existence

The term "factor" is used with some reservation The term agent or unit could have been used as well. But faculty, skill or function would connote too specific a meaning The first task was to construct methods of measurements which were able to differentiate the s factor from intelligence and memory, for instance. It is probable that intelligence tests measure *less* than what intelligence pretends to be, according to some definitions which are too inclusive The s factor cuts into and delimits the ✓ meaning of intelligence, which should make both intelligence tests and spontaneity tests more precise tools of measurement. Intelligence tests do not

DEVELOPMENT OF THE WORLD IMAGE OF THE INFANT

(1) MATRIX OF ALL-IDENTITY

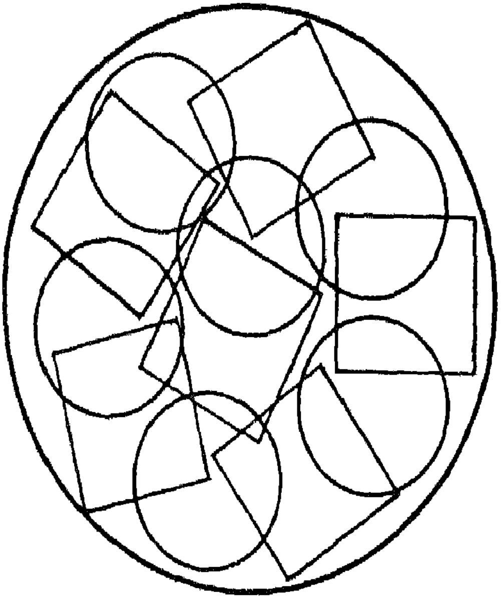

FIGURE 1

The large circle represents the infantile world The small circles within it represent living organisms as, for instance, individuals or animals The squares represent objects such as inanimated things - food or mechanical devices, such as the bottle The circles and squares are overlapping in order to indicate that individuals and objects are not yet experienced as separate units but fused into various configurations as they enter into the action range of the infant The bottle belongs to the hand which holds it, and both belong to the lips in the act of sucking The configurations which he experiences are act determined, that is to say he associates the parts of persons and things moving towards him as belonging to one manifold related to the act at the moment

(2) MATRIX OF DIFFERENTIATED ALL-IDENTITY
(OR OF ALL-REALITY)

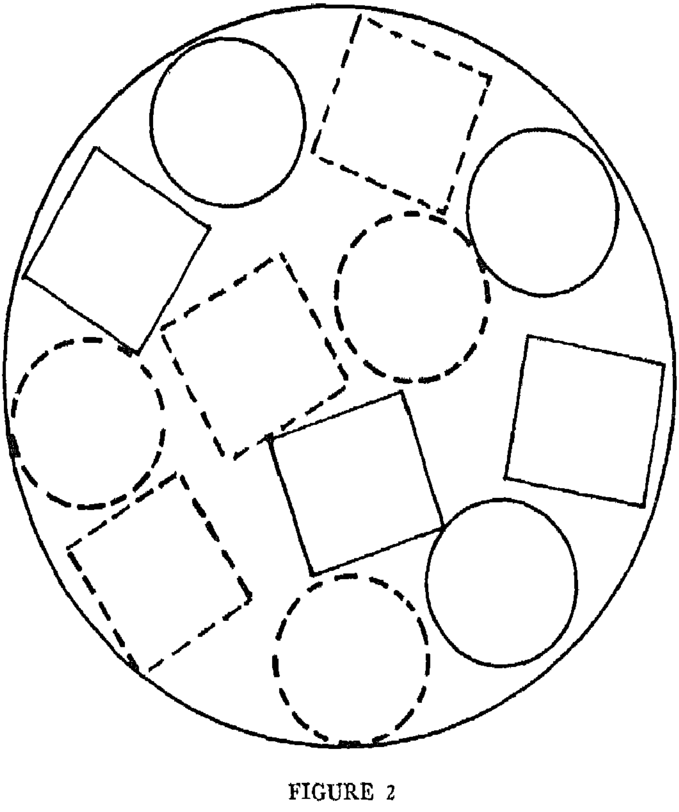

FIGURE 2

The large circle represents the infantile world The small circles represent individuals; the squares represent objects They are drawn apart from one another because they are already differentiated as separately functioning units But they are all drawn within the large circle, because the infant assigns to them the same degree of reality Dotted circles represent imagined individuals, and dotted squares represent imagined objects They are differentiated one from the other, but they are regarded as equally real—as real individuals and real objects

(3) MATRIX OF THE BREACH BETWEEN FANTASY AND REALITY

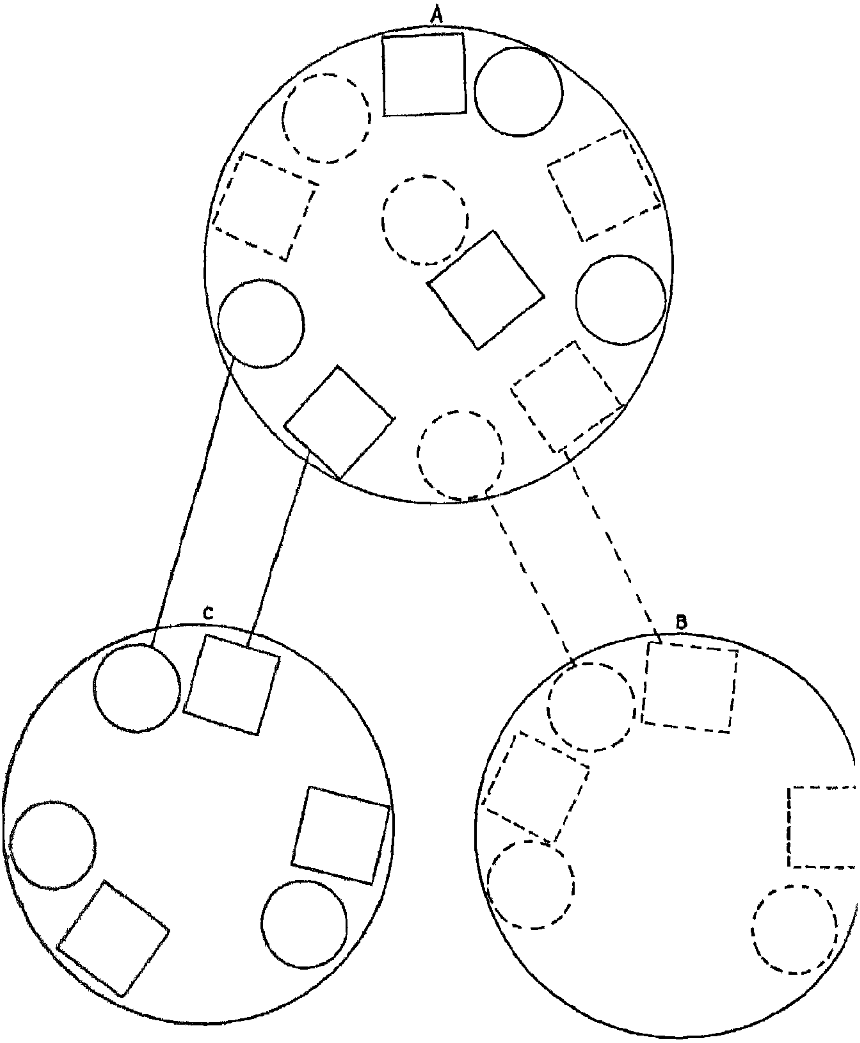

FIGURE 3

The large top circle (A) represents the all-reality world as described in Figure 2 The two lower circles represent the world of fantasy (B) and the world of reality (C) At this stage of development only the two lower circles represent the actual process The matrix of all-reality is reproduced here in order that the twin-process of replacement can be visualized An illustration of the re-cast is given here by means of one pair of individuals and objects in circles B and C

ROLE DIAGRAM

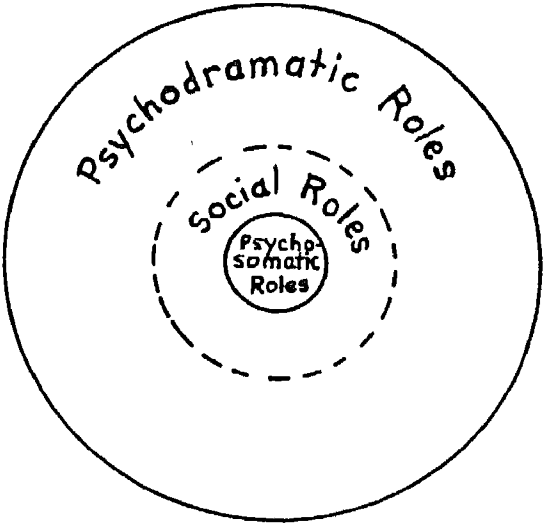

FIGURE 4

This diagram portrays the three types of role, the precursors of the ego The psychosomatic roles are in the innermost circle, and the next two concentric circles represent the social and psychodramatic roles, with a dotted line to separate them indicating that the threshold between them is thin A smaller space is assigned to the social roles, since they are less intensively developed than the psychodramatic roles In terms of development, the psychosomatic roles (role of the eater, eliminator, sleeper, etc) emerge first The psychodramatic and social roles develop later, the domain of the psychodramatic roles being far more extensive and dominating than the domain of social roles After the breach between fantasy and reality is established, the division between psychodramatic and social roles, which have been up to that point merged, begins gradually to become differentiated The roles of the mother, son, daughter, teacher, etc are called social roles and are set aside from the personification of imagined things, both real and unreal The latter are called psychodramatic roles

TABLE OF ROLE CLASSIFICATIONS

Origin	*Degree of Freedom of Spontaneity*	*Content*	*Quantity*
Collective Roles	Role Taking	Psychosomatic Roles	Deficiency of Roles
Individual Roles	Role Playing	Psychodramatic Roles	Adequacy of Roles
	Role Creating	Social Roles	Superiority of Roles

Time	*Speed*	*Consistency*	*Rank*	*Form*
Expectancy (future)	Slow	Weak	Dominant	Flexible
Presentness	Average	Balanced	Recessive	Rigid
Reminiscent (past)	Fast	Strong		
	Overheated			

measure spontaneity and spontaneity tests do not measure intelligence—in its narrower sense This does not exclude that both cannot be combined to advantage The s factor cuts into and delimits also the meaning of memory Spontaneity tests do not measure memory, therefore spontaneity tests must be so constructed that intelligence, memory, conditioning, gene and tele factors are as much as possible eliminated as factors which may influence the actions of individuals An individual with a low IQ may act more spontaneous than an individual with a high IQ An individual with a low capacity for the retention of facts by memory may be more spontaneous than individuals with a highly developed and reliable memory function Several individuals, equally unconditioned to a novel situation may vary in their response to it One may be at a loss before it because of a deficiency in the s factor, another may adapt himself to it with delay Others again, may show many degrees of adequacy A delicate job will be the separation of s factors from gene factors There may be found special genes for speed of a spontaneous state But the decrease or increase of spontaneity states by an individual facing a novel situation, requires a sense of timing for which no hereditary provision may exist Concepts as adaptation, flexibility, adjustment and re-adjustment are continuously dealing with the s factor and will gain in clarity by its measurement

The earliest s hypothesis was based on the premise that a certain degree of cerebral development is indispensable for the emergence of the s factor It was assumed that the system of conditioned reflexes, intelligence, and memory must be well established before the human organism can be ready for the s factor, and that it would not dare to use it even if it could emerge and establish itself at a premature point of his development, since it would expose him to enormous, perhaps fatal complications It was further assumed that therefore the "moment" as a category and as a focus in itself could not maintain itself as a pragmatic tool for the shaping of human progress Fearful of staking his existence on spontaneity and the unreliabilities of the moment, the more primitive man threw his creativity eagerly into forms which could be preserved—those of technical and cultural conserves The dreadful feeling of imperfection, which unprepared momentary performances gave him was shrewdly overcome by *clinging* to these technological crutches and cultural devices But the over-extensive development of the techno-cultural environment has brought about a new crisis in the form of the robot and cultural machinery such as, for example, the motion pictures They are able not only to assist but to replace man at the moment of performance The practical result is that man can reduce his creativity to a minimum and yet exert enormous power over others. At this point in his development, in our time, man is sufficiently protected by technological and cultural machinery so that he now can afford to experiment with the s factor as a focus in itself

An extension of this formula was forced upon us a few years ago by the following observations· Individuals are able to improve their behavior and to attain superior performance skill without any *significant* change in the intelligence quotient Changes in performance skill will reflect in the results of intelligence testing but not to the degree of the total gain caused by the s factor since the intelligence test is not a sensitive enough instrument to measure the s factor Mental defectives, who have come to an end of their learning ranges by means of devices which are constructed to meet the postulates of intelligence and memory functions are still able to learn by means of spontaneity training and rôle-playing Children between two to six years of age have a relation to social and cultural stereotypes which differs markedly from that of adults They love to repeat and to have things repeated to them again and again They are rarely satisfied with any *one* version of an action or of a tale related to them Life is an adventure which is never finished It appears as if the s factor enters the situation and *postpones* the end Their love for the same actions and tales, their perennial striving to return to them produces a *clinging* affection to cultural conserves which is in part a substitute, in part an extension of the clinging to auxiliary egos and objects in early infancy

A tentative picture of how the s factor develops from the situation at birth on is as follows: To begin with it is weak, inconstant and emerges particularly at critical moments At times it fails to emerge although its failure to come to the rescue becomes often fatal to the infant The vehicle of its operation is the physical starter portion of the warming up process Within the first weeks of life it increases in frequency and quantity but hardly in stability The clinging to the auxiliary ego is another formidable anchorage for its operation The s factor is according to this an active agent in behalf of the infant long before intelligence and memory develop new methods of orientation for the infant But there comes a point in the development of the infant when intelligence and memory take the lead and the s factor is forced more and more to be subservient to them. With the breach between fantasy and reality, a new flare-up of the s factor takes place For a while it seems as if it would be able to make intelligence, memory, and the social forces subservient to itself But finally it submits to the mighty social and cultural stereotypes which dominate the human environment. The s factor becomes from then on, as the child grows older, the forgotten function.

General Discussion of Spontaneity Theory

The place of the s factor in a universal theory of spontaneity is an important theoretical question. Does the s factor emerge only in the human group or can the s hypothesis be extended within certain limits, to subhuman groups and even to the lower animals and plants? How can the existence of the s factor be reconciled with the idea of a mechanical, law abiding universe, as for instance, with the law of the conservation of energy? The idea of the conservation of energy has been the unconscious model of many psychological theories, as for instance, of the psychoanalytic theory of the libido. In accordance with this theory Freud thought that, if the sexual impulse does not find satisfaction in its direct aim, it must displace its unapplied energy elsewhere. It must, he thought, attach itself to a pathological locus or find a way out in sublimation. He could not conceive of this unapplied affect vanishing because he was biassed by the physical idea of the conservation of energy. If we too, were to follow here this precept of the energy pattern, and would neglect the perennial inconsistencies in the development of physical and mental phenomena, we would have to consider spontaneity as a psychological energy—a quantity distributing itself within a field—which, if it cannot find actualization in one direction, would flow in another direction in order to maintain its volume and attain equilibrium. We should have to assume that an individual has a certain amount of spontaneity stored up to which he adds and which he spends as he goes on living. As he lives he draws from this reservoir. He may use it all or even overdraw. Such an interpretation is, however, unsatisfactory according to spontaneity research, at least on the level of human creativity. The following theory is herewith offered. The individual is not endowed with a reservoir of spontaneity, in the sense of a given, stable volume or quantity. Spontaneity is (or it is not) available in varying degrees of readiness, from zero to maximum, operating like a psychological catalyzer. Thus he has, when faced with a novel situation, no alternative but to use the s factor as a guide or searchlight, prompting him as to which emotions, thoughts and actions are most appropriate. At times he has to invoke more of this, say, spontaneity, and at other times less, in accord with the requirements of the situation or task. He should be careful not to produce less than the exact amount of spontaneity needed—for if this were to happen he would need a "*reservoir*" from which to draw. Likewise he should be careful not to produce more than the situation calls for because the surplus might tempt him to store it, to establish a reservoir, conserving it for future tasks as if it were energy, thus completing a vicious circle which ends in the deterioration of spontaneity and the development of cultural conserves *

A type of universe which is *open*, that is, a universe in which some degree of novelty is continuously possible—and this is apparently the type of universe in which human awareness has arisen—is a favorable condition✓ for the s factor to emerge and to develop It could not exist in a type of universe which is closed to novelty, i e , one which is determined by absolute laws Spontaneity, if placed into such a universe by chance, would rapidly deteriorate because of the impossibility of its growth and disuse of its function. If a subject would know in advance what kind of a situation he is to meet, as to form, place and time, he could prepare himself for it without spontaneity But if some s would be used by him during the preparation, there would be no proof that it has been operating.

A certain degree of unpredictability of coming events is a premise upon which the idea of the s factor must rest One can visualize a universe (or rather polyverse or multiverse) which is dominated by chance One can visualize a universe which is dominated by the s factor reducing the range of chance, and further a universe which adds regularity and order, so-called laws of nature, to chance *and* to spontaneity

High probability of events as to time, place, and form is not a condition favorable for the development of the s factor The greater the probability of recurrence of certain events, the smaller is the probability of s emergence It is rather their non-recurrence which is a favorable condition for the development of s, and which increases the probability that the s factor will emerge in the future But the non-recurrence of events in itself, i.e., the continued novelty of events, is also not a strict proof that spontaneity is operating The ever-changing character of events may be the results of pure chance A test has to be constructed, therefore, which differentiates chance events from spontaneous events, just as it differentiates the repetition of events from novel events

Another problem is the frequency of the s factor as it becomes manifest in the responses of an individual to situations One individual may disclose a high frequency of s, another a low frequency of s If, for instance,

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*For an extensive discussion of this problem see "Mental Catharsis and the Psychodrama," page 216-218, *Psychodrama Monograph*, No 6, Beacon House, N Y a response of an individual to varying unprecedented situations is continuously adequate and effective, compared with the responses of another individual for whom the situations are equally unprecedented, then we can conclude that the s factor operates with greater frequency in the one case than in the other, the premise being always that the individuals tested do not know in advance what kind of a situation may arise and what type of response may be required in order to meet it adequately.

The frequency of the s factor emerging is most unevenly distributed throughout our life time. The human infant, during its first few years of life, is confronted with new experiences and new situations, continuously challenging his responses to a degree unparalleled in other life periods. Our assumption here is that the larger the number of new situations, the greater is the probability that a comparatively large number of new responses will be made by that individual even if we think that it would be impossible for him to be aware of all situations emerging around him and to respond to all new situations in an adequate fashion. But to a certain number of these situations, he must respond. The infant may show any of the four following characteristic expressions of the s factor abundantly:

a) *Dramatic quality (newness, freshness, and vivacity)*
b) *Originality*
c) *Appropriateness*
d) *Creativity*

Another aspect of infancy is that the range of new experiences reaching him is quantitatively greater than for the adult, and that is of importance not only for the mentally superior infant, but for every infant. The need to acquire certain basic skills like eating, walking, speaking, etc., stimulates a process of learning in many ways dissimilar to that of the memorized and planned learning of the adult. The child is, in his growth, so closely related to the phenomena in its status nascendi, that a differentiation between situation and response is artificial. The closeness of the child to the status nascendi of experience keeps him in an atmosphere of spontaneity and creativity, rarely experienced again in later life. The new situations and the intensity with which he can experience them resemble creative acts to such a degree that creating becomes to him a matter of course. Because of this atmosphere of continuous new experiences coming on, to create and to be seems to him the same thing. No event can become stale when so many new events can replace the old ones and promise a world of endlessly oncoming events—a world of pure creativity He may create as an individual actually very little—most of his acts resembling those of his peers, but the logic of the child in feeling creatively is justified by the *mode* of his experience, its status nascendi, rather than by the originality of his experience

Conclusions

This paper presents a hypothesis regarding the development of the human infant from the situation at birth until he has found the first safe anchorage in the new world The hypothesis uses ideas like spontaneity, locus nascendi, warming-up process, spontaneous act, act-hunger, rôle-playing, and auxiliary ego in order to construct new concepts such as the matrix of identity and the first universe

A hypothesis, covering the most mysterious part of human existence and its least articulate phase, is here presented with reservation, awaiting consequent research to prove or disprove it It offers, however, certain values which are important for a well-constructed hypothesis (a) simplicity, the "spontaneity-warming-up process and act-hunger" syndrome is the basis of all other formulations. It appears to have an inner consistency and uniformity greater than previous efforts of interpretation, (b) productivity, it is able to interpret heretofore puzzling phenomena of infancy, the "short" intra-uterine existence, the "long" period after birth, infantile amnesia, the origin of image-building, and the origin of the dream, (c) it is stimulating further research and (d) it offers the matrix of all-identity as a common root of mental development—in fact, of the entire learning process

Supplementary Notes

Theoretical and empirical constructs Pure logical and intuitive constructs are permissible in domains of research, which are yet entirely unexplored Such domains of research are, from time to time, opening up, as it was with the sociometric approach *before* about 1923 Once, however a domain of research has been investigated by appropriate tools, pure theoretical constructs become retrogressive All constructs and hypotheses should be based from then on jointly on logical, intuitive, and empirical guides An illustration of this is sociometric research After "Das Stegreiftheater" (1923), The Group Method (1931), and Who Shall Survive (1934), a new strategy of research became imperative See "Sociometry in Relationship to other Social Sciences", *Sociometry,* vol 1, no 1, 1937

Stages in child development "The main lines of (child) development may be summarized as follows a stage of *organic isolation* (italics as in original) from birth on, a group of isolated individuals each fully self-absorbed, a stage of *horizontal* (italics as in original) differentiation of structure from about 20-28 weeks on, the babies begin to react toward each other, the factor of physical proximity and physical distance making respectively for psychological proximity or psychological distance, the 'acquaintance' beginning with neighbors first, a horizontal differentiation of structure; a stage of vertical differentiation of structure from about 40-42 weeks on, one or another infant commands disproportionate attention shifting the distribution of emotion within the group from the horizontal to a vertical differentiation of structure, the group which had been up to this point equally 'levelled,' develops more prominent and less prominent members, a 'top' and a 'bottom'" See Moreno, J L, "Who Shall Survive?", 1934, pages 23-24

Position of the infant in social space "The basis of sociometric classification is not a psyche which is bound up within an individual organism but *an individual organism moving around in space in relation to things or other subjects also moving around him in space* (italics as in original) The tele, however inexpansive or rudimentary, is an expression of the degree of attraction among them Our sociometric classification formula does not have else but to express the position of an individual within a group of subjects and things" "Who Shall Survive?", 1934, pp 377-378

Spontaneity "The root of the word 'spontaneous' and its derivatives is the Latin *sponte*, meaning *of free will* 'Spontaneity has the inherent tendency to be experienced by a subject as his own state, autonomous and free—free, that is, from any external influence and free from any internal influence which he cannot control It has, for the subject, at least, all the markings of a freely produced experience' 'Spontaneity is also the ability of a subject to meet each new situation with adequacy' 'It (spontaneity) is not only the process within the person, but also the flow of feeling in the direction of the spontaneity state of another person From the contact between two spontaneity states centering, naturally, in two different persons, there results an interpersonal situation'" (The interpersonal response is called *tele*) See J L Moreno, "Spontaneity Procedures in Television Broadcasting with Special Emphasis on Interpersonal Relation Systems", *Sociometry*, vol 5, no 1, 1942, also see Moreno, J L, "The Philosophy of the Moment and the Spontaneity Theatre," *Sociometry*, vol 4, no 2, 1941, see Moreno, J L, "Who Shall Survive?", 1934

Warming-up Process "The bodily starters of any behavior as acting or speaking on the spur of the moment are accompanied by physiological signs In the process of warming up these symbols unfold and release simple emotions, as fear, anger, or more complex states It is not necessary that verbal reactions evolve in the process of warming up They may or they may not But the mimic symbols are always present, they are related to underlying physiological processes and to psychological states Warming up indicators have been determined experimentally The experiment was so conducted that the subject had no intention to produce any specific mental state It was suggested to him to throw himself into this or that bodily action without thinking what will come out of it The 'starting' of these actions was found to be accompanied by a process of 'warming up' We could observe then that if a subject lets go with certain expressions as gasping, accelerating the breathing, etc, without a definite goal, there are nevertheless developed certain emotional trends The latter did not seem to be related to *one* emotion exclusively but rather to a whole group of emotions with similar properties in common For instance, the following expressions,—clenching teeth and fists, piercing eyes, frowning, energetic movements, shrill voice, hitting, scuffling of feet, holding head high, accelerated breathing, and others, tend to release emotional states as anger, will to dominate, hate, or a *vague precursor* of these trends of feeling. Another set, accelerated breathing, gasping, trembling, flight, twisting facial muscles, inability to talk, sudden crying out, clasping hands, etc., is developing another trend of feeling, anxiety, fear, despair, or a combination of these. Another set, smiling, laughing, chuckling, widening the eyes, kissing, hugging, etc., is stimulating a condition of happy excitation. However, undifferentiated the feelings produced may be, it is observable that one set of movements *starts* one trend of feelings and another set of movements *starts* another trend, and so on. Each of these three sets of starters appears to operate as a unit. . . . Bodily movements were found to follow one another in a certain order of succession according to which is the initiating starter. If the succession is interrupted the temporal order is spoiled and the state of feeling released is confused." See Moreno, J. L., "Who Shall Survive?", 1934. pp. 194-195.

"The warming-up process consists of specific acts and intervals. While an individual eats, such acts and intervals vary in duration. The rate of frequency with which one act follows another is characteristic of each individual. It can be so speedy that the intervals between the acts are around zero, or so drawn out that they (the pauses) become the essence of an individual's warming-up process. In this case, the acts appear like occasional breaks in a continuum of pause."

"The role of the eater is one of the most fundamental roles for the infant. The baby's performance during the feeding process is a continuum of acts, hardly broken by an interval. It takes a breathing spell only after a chain of acts bring about an abrupt pause. In the evolution of a performance state, the act must be considered as primary and the pause considered largely as secondary and later development. It appears from observation that the function of pauses develops more rapidly as soon as the infant learns to use tools for eating and when it begins to eat with others. The pause is the result of a normative social process. The time of duration of a meal can be expressed by the following formula: T (total time) = s (starting interval) plus N (number) × A (time of average act) + N_1 (a different number) × P (time of average pause). In the case of Sarah's meal (a mental patient), her average act lasted 37.2 seconds, her pauses averaged 78.75 seconds, her starting interval 180 seconds (3 minutes). We know that she took 25 mouthfuls and needed 24 pauses. Therefore her formula would read: $T = 180 + 25 \times 37.2 + 24 \times 78.75$, or T 3,000 (seconds) which make 50 minutes. At the same meal, Barbara needed 50 mouthfuls. Five very short pauses were observed, and no starting interval was needed. She took $5\frac{1}{2}$ minutes for the meal, or 330 seconds. The time of the average act was thus 6.6 seconds, and her pauses averaged 3 seconds. We could not time the negative intervals, but their total may be computed when we use the above formula, with slight modification. Thus $T = 0$ (starting interval) $+ 50 \times 6.6 + 5 \times 3 - T_2$ (total of negative intervals). We know she took 330 seconds, so the equation simplifies into this: $330 = 330 + 15 - T_2$, hence $T_2 = 15$ seconds."

"Evidently, acting and pausing develop in the evolution of a specific performance an interrelated dynamic quality. In Sarah's case this dynamic function of pausing is perverted. It is indeed, as a more detailed analysis shows, only apparently a pause. The pause is masking a new underlying act or a series of acts which attach her mind to one or another of her fears of ideas. By these interpolated foreign warming-up processes, her return to the performance of eating is extremely handicapped Indeed her pauses are often so perverted that they consist of a true pause plus a chain of foreign acts plus a starting interval towards a new mouthful In Barbara's case the situation is different It is the act which is perverted, and not the pause," (See Normal and Abnormal Characteristics of Performance Patterns, with special reference to the duration of spontaneous states, by Joseph Sargent, Anita M Uhl, in collaboration with J L Moreno, M D, *Sociometry*, volume 2, number 4, 1939)

Observations of bottle fed and breast-fed babies showed that the duration of a feeding is spontaneously terminated by the infant when the point of saturation is reached The mother, or auxiliary ego, may prolong the feeding act forcibly beyond the child's own termination, or the mother may shorten it abruptly The result of such interference is that the infant will interrupt and pause, at times without outside stimulus resulting in a perverted warming up of his role of eating

Organization of the Human Person The human person is the result of hereditary forces (g), spontaneous forces (s), social forces (t), and environmental forces (e) According to this formula, social forces are differentiated from environmental forces Sociometric investigations and the development of the tele factor have shown this distinction to be of advantage from the point of systematics The tendency of gestalt psychologists and field theorists to throw the social *and* object relations into one and the same field environment - is disadvantageous Similarly, the study of the psychological forces themselves would profit from a division between the general p processes (intelligence, memory, association, etc) and the s (spontaneity) factor

Direct study and experimentation with the human infant, and the construction of tests facilitating hypotheses based upon their findings will replace gradually all indirect methods whether based upon animal behavior or the behavior of human adults These types of study should take second place Behavioristic concepts coming from experimentation with animals, as conditioning reflex, reconditioning, blocking (mixing in the analysis of animal behavior the metaphors of human interpretation), etc, tend to *over-simplify* the situation of the human infant They cannot be but supplementary to the study of direct spontaneous and immediate events Psychoanalytic concepts, on the other hand, coming from the analysis of human adults, as unconscious, identification, repression, regression transference displacements, trauma, etc, cannot but *over-complicate* the situation They are useless at this level of personality growth (not to mention other reasons), as the psychodynamic situation from which they have been derived does not exist or does not exist as yet The psychoanalytic investigator pushes backwards towards the trauma However, there is no trauma constructible preceding the moment of birth The psychodramatist pushes forward towards the act But the direction of the push begins with the infant at birth, thereby affording no possibility of a backward push only a push forward which is the living process in progression

Spontaneity Training " We decided to let the subject act as if he had no past, and were not determined by an organic structure, to describe what occurs with the subject in these moments in terms of action, to stick to the evidence as it emerges before our eyes and to derive our working hypotheses from it exclusively The starting point was the state into which the subject threw himself for the purpose of expression He threw himself into it at will There was no past image guiding him, at least not consciously There was no striving in him to repeat a past performance or to surpass it He warmed up to a state of feeling often jerkily and inadequately He showed a sense of relationship to people and things around him After a few moments of tension came relaxation and pause, the anti-climax We called this state the *Spontaneity State* The students are told to throw themselves into the situations, to live them through, and to enact every detail needed in them as if it were in earnest . No situation is repeated During the training a student takes careful record of each performance A copy of it goes to every student . After each performance an analysis and discussion of it opens up, in which the students as well as the instructor take part The most striking therapeutic effect is the general increase in flexibility and facility in meeting life situations, within the organic limits of the particular individual" See Moreno, J L, and Jennings, Helen, "Spontaneity Training", *Psychodrama Monograph,* no 3, Beacon House, New York

The Auxiliary Ego "The situation of the auxiliary ego has to be differentiated from its function However much he may have become auxiliary, however deeply he may approximate the ideal of unification, the unity is never complete owing to organic and psychological limitations The degree of organic and psychological limitations varies The mother is to the baby with whom she is pregnant an ideal auxiliary ego She still is that after the birth of her infant whom she nurses and for whom she cares, but the organic and psychological gap manifests itself before the infant is born The mother is the ideal example of an instinctive auxiliary ego Either the auxiliary ego includes the person to be aided—inclusion of the weak infant's ego by the mother ego—or it is itself included In the latter case the auxiliary ego is weak and the person aided is strong This relationship is often forced, as in serf-master relationship, and has the mark of exploitation The auxiliary ego can take good advantage of the gap between himself and the person to be aided As only a part of his ego is spent in the process of unification, *a part of it is free to act in behalf of this ego beyond what he can do for himself* The situation of the auxiliary ego is therefore to attain unity with a person, to absorb the patient's wishes and needs and to operate in his behalf without being, however, identical with him"

Role-playing "We consider roles and relationships between roles as the most significant development within any specific culture The pattern of role relations around an individual as their focus is called his cultural atom Every individual, just as he has a set of friends and a set of enemies,—a social atom—also has a range of roles facing a range of counter-roles *The tangible aspects of what is known as the 'ego' are the roles in which he operates*" Moreno, J L, "Sociometry and the Cultural Order," Sociometry Monograph No 2, Beacon House, Inc, 1943

Tele "A feeling which is projected into distance, the simplest unit of feeling transmitted from one individual towards another" See Moreno, J L, 'Who Shall Survive?", 1934, page 432 "The socio-gravitational factor which operates between individuals, drawing them to form *more* positive or negative pair-relations, triangles, quadrangles, polygons, etc, than on *chance,* I have called 'tele'—derived from the Greek, the meaning is 'far' or 'distant' It has no relation to 'telos' which means the 'end' or 'purpose'" See Moreno, J L, "Sociometry and the Cultural Order", *Sociometry Monograph,* no 2, Beacon House, Inc, 1943

Definition of spontaneity We have defined spontaneity as an adequate response to a novel situation It may be useful to differentiate the possible responses an individual may show in a situation confronting him

a) *No response* This means that no s factor is in evidence. The individual may have given up the old response without producing a new one He may have kept the old response constant or altered it so insignificantly that he appears at a loss when faced with a new situation Either he doesn't pay attention to the new situation confronting him, or he is unable to do it because of lack of ability to recognize it *No* response may, however, have dire consequences for the individual The new situation might threaten his existence or destroy some of the values he cherishes The deeper his wish to produce some s response is linked with inability to produce it, the greater is the calamity

b) *An old response to a new situation* An illustration is the robot plane. It was a new situation, confronting the British chief of staff of the armed forces in 1944 To respond to it in the same fashion as to any other man-piloted airplane, would have been unsatisfactory A new response had to be initiated—*a response for which there was no precedent*—it is here where the s factor comes into being, in the inventiveness of engineers and in the organization of their ideas

c) *A new and adequate response to a new situation* As explained above, an old response is void of s A new response cannot be produced without s, although other factors must participate, such as intelligence, memory, etc We must add here the difference between adequate and appropriate s, on the one hand, and erratic and inappropriate s, on the other hand. A response may be new but far afield from the requirements of the situation

d) *A new response to an old situation* The Lord's prayer, spoken before each meal, may have been spoken for the hundredth time by an individual The words and the sequence may remain unchanged It may give the external picture of an old response to the situation encountering him, but the intensity of feeling, the timing, and his action as he speaks a prayer may differentiate it from his own previous renderings and from the manner of praying of other individuals The s factor becomes manifest here, although it may not seem necessary to be spontaneous when praying There is no threat to the life of the individual, but there may be one to his *status* One could argue that the effect of the prayer upon the participants might be equally great, if he would render an absolute repetition of it each time But the more the prayer becomes automatic, the more the loss of s (spontaneity) will deteriorate one's faith in the value of prayer On the other hand, continued exercise in spontaneity in praying will give the prayer evergrowing religious reality and dignity

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